In re: Lindell, et al. Serial No.: 10/535,632

Filed: May 20, 2005

Page 2 of 6

## Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of the claims in the application:

## **Listing of Claims:**

- 1. (Currently amended) A portable electronic device configured to communicate with a reference frequency generator comprising:
  - a receiving unit configured to receive a reference frequency,
  - a frequency source configured to generate a frequency of the device, and
  - at least one control unit configured to supply a new control value to the frequency source, said value being determined by the frequency source frequency and the reference frequency and to calculate a rate of change value at least based on the new and a previous control value if there is communication with the reference generator, and configured to calculate a the new control value based on the rate of change value and a the last used control value and to supply the new control value to the frequency source if there is no communication with the reference generator.
  - 2. (Previously Presented) A portable electronic device according to claim 1, further comprising a detecting unit that is configured to detect if the device is in communication with the reference frequency generator or if communication is lost.
  - 3. (Previously Presented) A portable electronic device according to claim 1, further comprising a control value store comprising the last used control value and a change of rate store comprising the rate of change associated with the last used control value.
  - 4. (Currently amended) A portable electronic device according to claim 2, further comprising a first control unit configured to control the frequency source if there is communication with the reference generator and a second control unit (30) arranged configured to control the frequency source if there is no communication with the reference generator.
  - 5. (Previously Presented) A portable electronic device according to claim 4, further comprising a switch configured to connect the first control unit with the frequency source if

In re: Lindell, et al. Serial No.: 10/535,632

Filed: May 20, 2005

Page 3 of 6

the detecting unit detects communication and to connect the second control unit with the frequency source if the detecting unit does not detect communication.

- 6. (Previously Presented) A portable electronic device according to claim 1, further comprising a timer configured to start if communication is lost with the reference frequency generator, wherein the at least one control unit is configured to stop using the rate of change information if the counter reaches a predetermined value.
- 7. (Previously Presented) A portable electronic device according to claim 6, wherein the timer is reset if communication with the reference frequency generator is established after being lost.
- 8. (Previously Presented) A portable electronic device according to claim 6, wherein the predetermined value is dependent on the rate of change information.
- 9. (Previously Presented) A portable electronic device according to claim 8, wherein the predetermined value is high if the rate of change is low and is low if the rate of change is high.
- 10. (Previously Presented) A portable electronic device according to claim 1, wherein it the portable electronic device is a mobile phone and the reference frequency generator is a base station.
- 11. (Currently amended) An apparatus comprising:

a control device for a frequency source that uses an external reference frequency generator, the control device being configured to supply a new control value to the frequency source, said value being determined by the frequency source frequency and the reference frequency and to calculate a rate of change value at least based on the new and a previous control value if there is communication with the reference generator, and configured to calculate a the new control value based on the rate of change value and a the last used control value and to supply the new control value to the frequency source if there is no communication with the reference generator.

In re: Lindell, et al. Serial No.: 10/535,632 Filed: May 20, 2005

Page 4 of 6

12. (Currently amended) A method of regulating a frequency source in a portable electronic device, comprising:

if there is communication with the reference generator: supplying a new control value to the frequency source, said value being determined by the frequency source frequency and the reference frequency; and calculating a rate of change value at least based on the new and a previous control value; if there is no communication with the reference generator: calculating a the new control value based on the rate of change value and a the last used control value; and supplying the new control value to the frequency source.

- 13. (Previously Presented) A method according to claim 12, further comprising detecting reception or no reception of reference frequency signals.
- 14. (Previously Presented) A method according to claim 13, further comprising: storing the supplied control value; and storing the rate of change value if reference frequency signals from the external reference frequency generator are received.
- 15. (Previously Presented) A method according to claim 13, further comprising: if there is no reception of reference signals from the external reference frequency generator: counting the time during which no reference frequency signals are received; and stopping calculating new control values if the time reaches a preset time limit.
- 16. (Previously Presented) A method according to claim 15, further comprising: resetting the time if reference frequency signals are received again.
- 17. (Previously Presented) A method according to claim 15, wherein the preset time limit is dependent on the rate of change value.
- 18. (Previously Presented) A method according to claim 17, wherein the preset time limit is high if the rate of change value is low and is low if the rate of change value is high.